AMPHIBIAN AND REPTILE SURVEY OF THE THOMPSON CHAIN OF LAKES

A Report to:

Montana Department of Fish, Wildlife & Parks
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Submitted by:

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ABSTRACT

A brief inventory of the Thompson Chain of Lakes was conducted in May-June 2000 for amphibians and reptiles in the complex of wetlands present there. Twenty-six site surveys at 16 sites revealed the presence of four amphibian species and three reptile species at 13 sites; one species was detected at 5 sites, two species at 4 sites, three species at 3 sites, and four species at 1 site. Amphibians detected included long-toed salamander (*Ambystoma macrodactylum*) at 8 sites, western toad (*Bufo boreas*) at 2 sites, Pacific tree frog (*Hyla regilla*) at 2 sites (also heard calling from a cattail area in one of the main lakes), and Columbia spotted frog (*Rana luteiventris*) at 5 sites. Reptiles detected included painted turtle (*Chrysemys picta*) at 6 sites, common garter snake (*Thamnophis sirtalis*) at 2 sites, and western terrestrial garter snake (*Thamnophis elegans*) at 1 site. Total individuals and egg masses seemed low for the amount of available, apparently suitable, habitat. However, amphibian/reptile species richness at the Thompson Chain of Lakes is at or near expectation, and the inventory revealed all of the anticipated amphibian and wetland-associated reptile species, with the possible exception of the northern leopard frog (*Rana pipiens*).

INTRODUCTION

Increasing concern about declining amphibian populations and continued threats to their wetland habitats has prompted many state and federal agencies to inventory local amphibian species and revisit historical sites to document current status. The limited knowledge of amphibian status and distribution in western Montana 50 years ago (e.g. Rodgers and Jellison 1942, Brunson and Demaree 1951) has been supplemented by a recent series of survey efforts (e.g. Werner and Reichel 1994, Hendricks and Reichel 1996, Marnell 1997, Werner et al. 1998); a comprehensive summary is presented in Maxell (1999).

The amphibian and wetland reptile survey of the Thompson Chain of Lakes in Sanders County presented here contributes to a growing body of knowledge on the status and distribution of amphibians and reptiles in northwest Montana. The 2000 inventory supplemented an inventory of wetland vegetation in the same area. Both field inventories were supported by funding from the Montana Department of Fish, Wildlife & Parks.

METHODS

Sites for amphibian surveys (see Fig. 1-4) were selected based on information received during discussions with the Heritage Program wetland ecologist and MTFWP personnel, and study of USGS 7.5' topographic maps (Thompson Lakes, Mont. 1983 photorevised; Loon Lake, Mont. 1983 photorevised). The Thompson Chain of Lakes has not been the object of previous systematic amphibian surveys, so a wide range of sites was selected. Nevertheless, priority was given to isolated wetland sites lacking introduced or native fish. Therefor, survey effort of the major lakes was very limited.

From 15-105 minutes were spent during each site survey (Table 1), depending upon the size of the area, site conditions (including weather), and what was found. Shorelines and wetland margins were searched for adults and juveniles while walking slowly along the edge, and sites were also scanned for turtles using an 8-power binocular. The entire perimeter was searched at smaller sites. The adjacent shallows were also inspected; all May surveys included visual searches for egg masses attached to submerged and emergent vegetation. At regular intervals (where appropriate) the aquatic habitat was sampled for tadpoles or larvae using a dipnet. Time of day and duration of searches (a measure of search effort: Heyer et al. 1994, Olson et al. 1997), weather, and species encountered were recorded on standardized U.S. Fish and Wildlife Service data sheets. Some sites were visited more than once to increase the possibility of detection and document phenology of development.

RESULTS AND DISCUSSION

Twenty-six site surveys were conducted at 16 sites during two visits (early May, early June) to the Thompson Chain of Lakes. Four amphibian species (long-toed salamander *Ambystoma macrodactylum*, western toad *Bufo boreas*, Pacific tree frog *Hyla regilla*, Columbia spotted frog *Rana luteiventris*) and three reptile species (painted turtle *Chrysemys picta*, common garter snake *Thamnophis sirtalis*, western terrestrial garter snake *Thamnophis elegans*) were detected at 13 of the survey sites (Table 1). The most frequently detected species, long-toed

Table 1. Amphibian and reptile species detected during the May-June 2000 Thompson Chain of Lakes inventory. Site numbers correspond to locations in Figures 1-4.

Site No.	Site Name	TRS	Date	Survey Duration (hr:min)	Species[a] (No. indiv.)	Comments
1	Leon Lake	T27NR28WS22NESE	5 Jun	0:30	RALU (1)	Juv.
2	Banana Lake Marsh	T27NR28WS23NENW	5 May	0:20	none	Cold rain
"	"	"	5 Jun	0:30	AMMA (3) RALU (4)	Larvae Tadpoles
3	Banana Lake	T27NR28WS23NWNE	4 Jun	0:30	none	Many fish
4	Horseshoe Lake S pond	T27NR28WS23SWSE	5 May	0:45	CHPI (22)	
"	"	"	5 Jun	0:35	RALU (12) CHPI (2)	Tadpoles Adults
5	Lilypad Lake Pond	T27NR28WS24SWNW	5 Jun	0:20	AMMA (10) RALU (7) THEL (1) THSI (1)	Larvae Tadpoles Adult Adult
6	Lilypad Lake	T27NR28WS24SWNW	5 Jun	1:00	AMMA (3) RALU (7) CHPI (6)	Larvae Juv, tadpole Adult
7	Crystal Lake S Pond	T27NR28WS25SENE	5 May	0:45	HYRE (1-2) CHPI (1)	Adult Adult
"	"	"	6 Jun	0:25	CHPI (2)	Adult
8	Crystal Lake N Pond	T27NR27WS19SWSW	5 May	1:00	AMMA (3)	Egg mass
"	"	"	4 Jun	0:30	CHPI (1) THSI (1)	Adult Juv.
9	Unnamed Lake	T27NR27WS32NWNW/ S29SWSW	4 May	1:05	AMMA (1)	Egg mass
"	"	"	4Jun	1:05	BUBO (3) CHPI (18)	Adult, Juv. Adult
10	Upper Thompson Lake	T27NR27WS32NWNW	4 Jun	0:25	BUBO (1)	Juv.
11	Upper Thompson Lake Marsh #3	T27NR27WS32SWNE	4 May	0:30	AMMA (7)	Egg mass
"	"	"	4 Jun	0:15	none	
12	Upper Thompson Lake Marsh #2	T27NR27WS32 center	4 May	0:20	none	Dense veg.
"	"	"	4 Jun	0:15	none	Dense veg.
13	Upper Thompson Lake Marsh #1	T27NR27WS32NWSE	4 May	0:40	AMMA (6)	Egg mass
"	"	"	4 Jun	0:15	none	
"	"	"	6 Jun	0:20	AMMA (2)	Larvae
14	Unnamed Marsh	T27NR27WS32SWSW	4 May	0:45	HYRE (8-10)	Adult
"	"	"	6 Jun	0:45	none	
15	Eli Lakes	T27NR27WS32	6 Jun	0:30	none	Dense veg.
16	Lower Thompson Lake Pond	T26NR27WS11NWSE	6 Jun	0:45	AMMA (1) CHPI (10)	Larva Adult, juv.

[a] AMMA (*Ambystoma macrodactylum*: long-toed salamander), BUBO (*Bufo boreas*: western toad), HYRE (*Hyla regilla*: Pacific tree frog), RALU (*Rana luteiventris*: Columbia spotted frog), CHPI (*Chrysemys picta*: painted turtle), THSI (*Thamnophis sirtalis*: common garter snake), THEL (*Thamnophis elegans*: western terrestrial garter snake).

salamander, was found at 8 sites. Painted turtle and Columbia spotted frog were found at six and five sites, respectively. Western toad, Pacific tree frog, and the two garter snake species were found at either one or two sites. Pacific tree frog was also heard vocalizing from a cattail area on Upper Thompson Lake (T27NR27WS32NESW) during both the May and June visits. Number of species detected per site were as follows: one species-5 sites, two species-4 sites, three species-3 sites, four species-1 site. Surveys were probably conducted a little too early to determine the range of sites that might be used by western toads. No toads were detected in early May, and only one calling individual was heard in early June. Future searches for toads should be conducted later in June or in early July when chances of detecting this species are greatest.

The species detected represented most or all of the species anticipated. Thus, species richness at Thompson Chain of Lakes is probably little different from what it was early in the 20th century. One amphibian species present nearby in northwestern Montana, the tailed frog (*Ascaphis truei*), inhabits swift mountain streams and would not be expected to occur in the wetland habitats surveyed. The same applies to the Couer d'Alene salamander (*Plethodon idahoensis*), which occupies fracture zones and seepages in northwestern Montana (Wilson et al. 1997) but whose habitat is lacking from the Thompson Chain of Lakes site.

The only amphibian possibly present in the last 50 years that was not detected during the 2000 inventory is the northern leopard frog (*Rana pipiens*). There are historical specimen records from the Noxon area (1964) over a mountain divide to the west in Sanders County, and from Rogers Lake (1974) and near Marion on Bitterroot Creek (no date) in Flathead County, about 25 miles to the east. However, there are no historical records from the Thompson Chain of Lakes, so its former presence at this area remains speculative. The species has experienced extirpation from many former sites in western Montana (Werner et al. 1998).

Although a full compliment of wetland-associated amphibian species were detected, the number of individual egg masses, larvae, tadpoles, and adults seemed low, given the abundance of seemingly suitable habitat. This impression of low numbers was supported by a conversation with a long-term resident of Libby who has spent many weeks in each of the last 20 years camped at the Thompson Chain of Lakes. He commented that frogs and toads don't seem to be anywhere near as common as they used to be, and further noted that lake levels have dropped over the past two decades at many sites, as evidenced by shoreline willows now well-back from current shorelines. Perhaps some change in water levels is affecting amphibian abundance. Annual monitoring is recommended at this collection of wetlands.

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Figure 1. Sites 1-6 at the Thompson Chain of Lakes, Sanders County, Montana surveyed for wetland-associated amphibians and reptiles in May and June 2000.

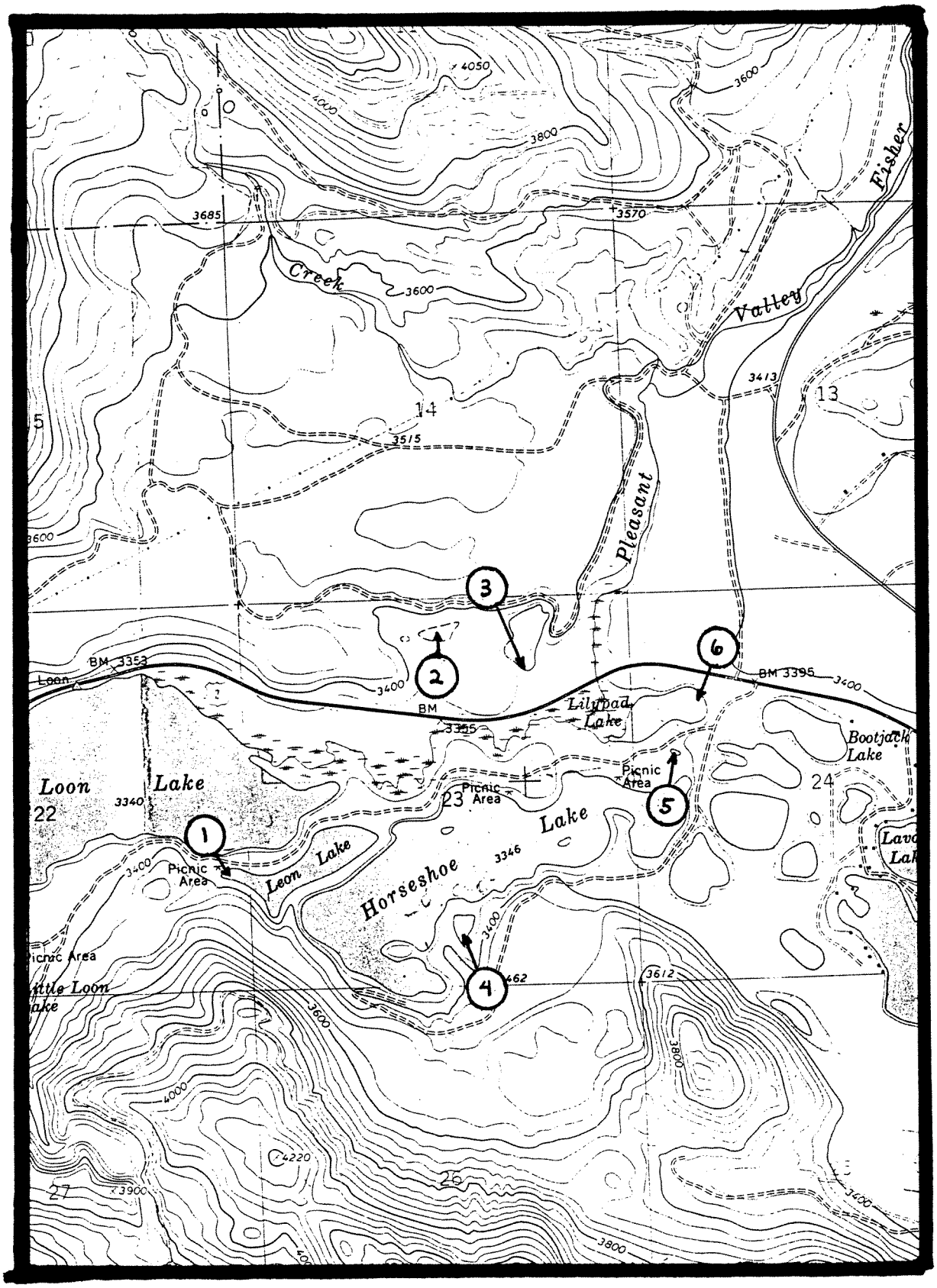

Fisher
Creek
Valley
Pleasant
Loon Lake
Lily Pad Lake
Bootjack Lake
Horseshoe Lake
Leon Lake
Little Loon Lake
Picnic Area
BM 3353
BM 3395
BM
3685
3570
3600
3515
3413
3340
3346
3462
3612
4220
4050
4000
3800
3400
3900
14
13
22
23
24
26
27
1
2
3
4
5
6

Figure 2. Sites 7 and 8 at the Thompson Chain of Lakes, Sanders County, Montana surveyed for wetland-associated amphibians and reptiles in May and June 2000.

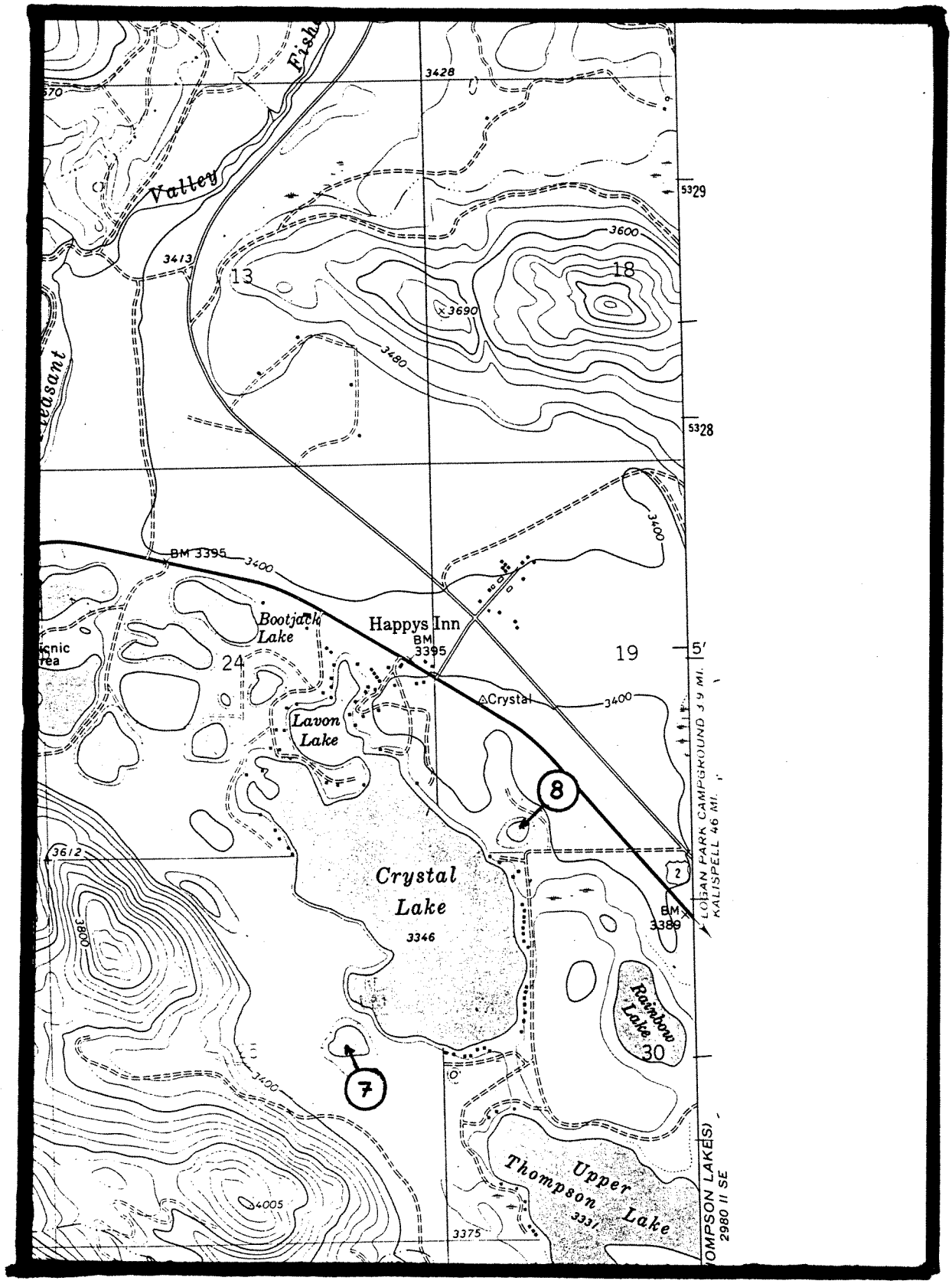

Fish
Valley
Pleasant
3428
3600
3413
13
18
3690
3480
5329
5328
3400
BM 3395
3400
Bootjack Lake
Happys Inn
BM 3395
19
24
Lavon Lake
Crystal
3400
8
3612
Crystal Lake
3346
3800
BM 3389
Rainbow Lake
30
7
3400
4005
3375
Upper Thompson Lake
3331
LOGAN PARK CAMPGROUND 39 MI.
KALISPELL 46 MI.
OMPSON LAKES)
2980 II SE

Figure 3. Sites 9-15 at the Thompson Chain of Lakes, Sanders County, Montana surveyed for wetland-associated amphibians and reptiles in May and June 2000.

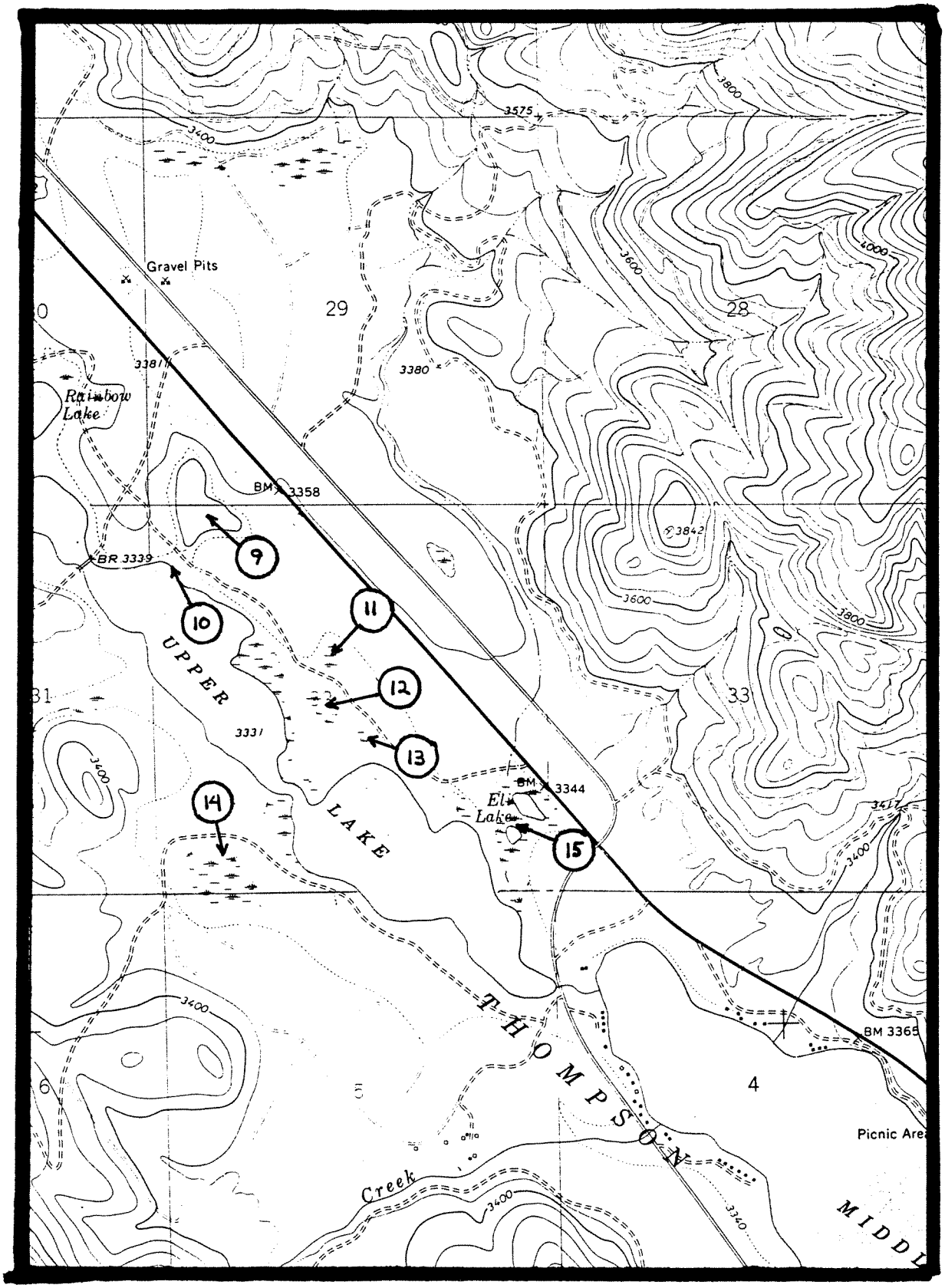
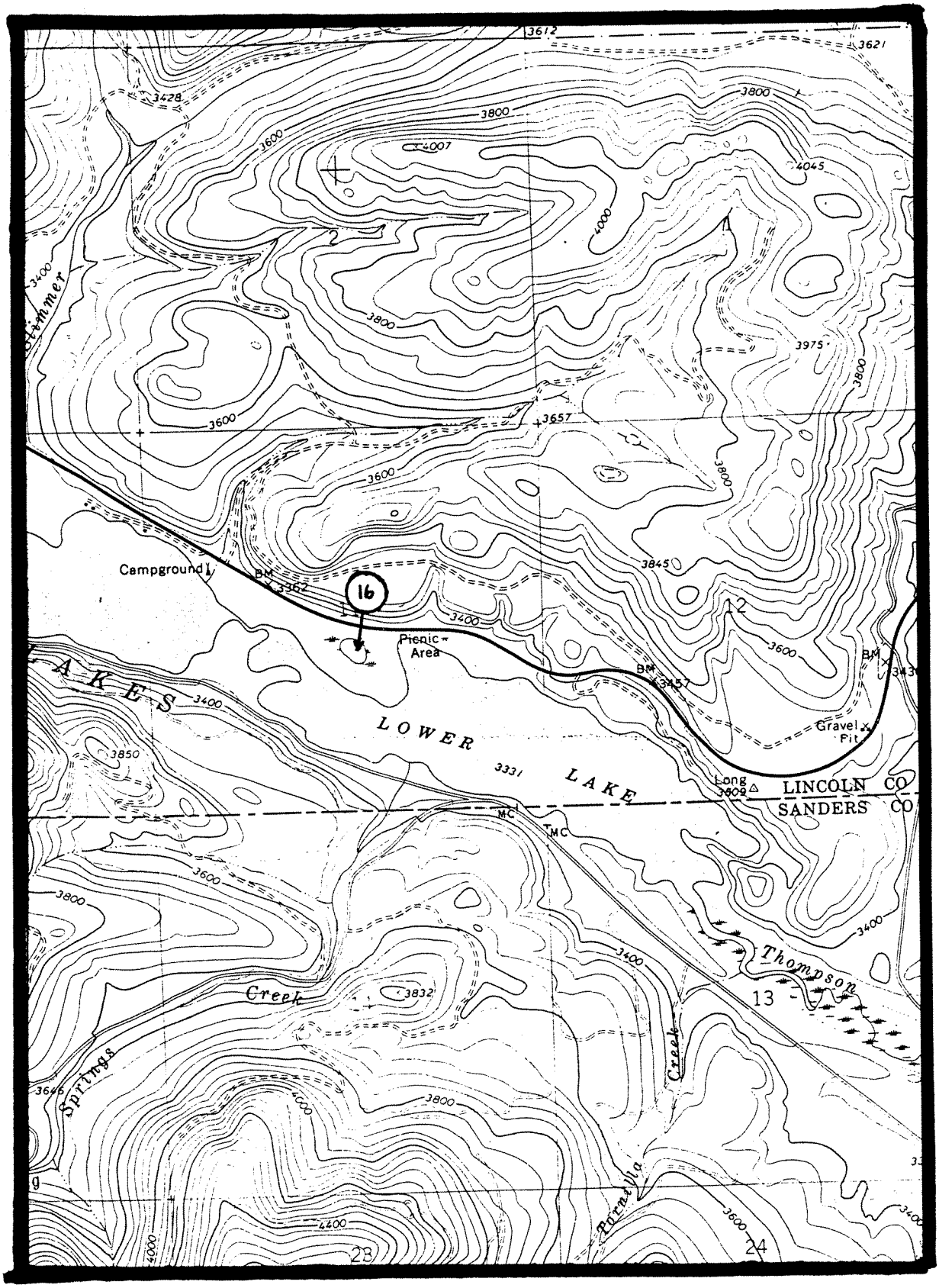

Gravel Pits
29
28
3381
Rainbow Lake
3380
BM 3358
BR 3339
9
10
11
12
13
14
15
UPPER
3331
LAKE
BM 3344
Elk Lake
3842
3600
3800
3575
3400
3340
31
33
4
6
THOMPSON
Creek
BM 3365
Picnic Area
MIDDL

Figure 4. Site 16 at the Thompson Chain of Lakes, Sanders County, Montana surveyed for wetland-associated amphibians and reptiles in May and June 2000.


Campground
BM 3362
16
Picnic Area
BM 3457
Gravel Pit
LOWER LAKE
LINCOLN CO
SANDERS CO
Thompson Creek
Creek
Springs
Pormilla Creek
3612
3621
3428
3800
3600
4007
4045
4000
3400
3975
3657
3845
3850
3331
3832
3646
4400
28
24
13
12